

## Ventilation Test Instruments



Model 8455



8455

8465

8475

## Applications

- Comfort and draft studies
- Critical environment installations (e.g., clean rooms and hospitals)
- Diffuser design analysis
- Monitoring drying processes
- Monitoring air flows in tunnels and subways
- Used as a standard in wind tunnels and calibration facilities
- Environmental monitoring in greenhouses and IAQ applications
- General engineering applications

## Air Velocity Transducers

**Models 8455, 8465, and 8475**

The 8455, 8465, and 8475 Air Velocity Transducers are ideal for both temporary and permanent installations for air velocity measurements in research and development labs, manufacturing processes, and other applications. The full-scale range, signal output, and time constant are user selectable and can be easily changed to meet the needs of your application.

## General Purpose (8455)

- Protected probe tip
- Rugged ceramic sensor
- Wide range of measurement applications
- Fast response time

## Windowless (8465)

- Less flow blockage
- Ideal for measuring in confined spaces
- Fast response time

## Omnidirectional (8475)

- Omnidirectional probe tip
- Accurate at low velocities from 10 to 100 ft/min (0.05 to 0.5 m/s)
- Ideal for unknown or varying flow direction



## Specifications

Models 8455, 8465, 8475

All models contain on-board electronics and calibration curves that provide a linear signal output. This linear signal is sent out as either a current (mA) or a voltage (V) signal, allowing output to a variety of data loggers or data acquisition systems. In addition, the current and voltage output ranges are user-selectable for your convenience.

### Accuracy

<b>8455</b>	$\pm 2.0\%$ of reading <sup>1</sup> , $\pm 0.5\%$ of full scale of selected range
<b>8465</b>	$\pm 2.0\%$ of reading <sup>1</sup> , $\pm 0.5\%$ of full scale of selected range
<b>8475</b>	$\pm 3.0\%$ of reading <sup>2</sup> , $\pm 1.0\%$ of full scale of selected range

### Field Selectable Range

<b>8455 and 8465</b>	25 ft/min to 200, 250, 300, 400, 500, 750, 1,000, 1,250, 1,500, 2,000, 2,500, 3,000, 4,000, 5,000, 7,500, 10,000 ft/min (0.125 m/s to 1.0, 1.25, 1.50, 2.0, 2.5, 3.0, 4.0, 5.0, 7.5, 10.0, 12.5, 15.0, 20.0, 25.0, 30.0, 40.0, 50.0 m/s)
<b>8475</b>	10 ft/min to 100, 125, 150, 200, 250, 300, 400, 500 ft/min (0.05 m/s to 0.5, 0.75, 1.0, 1.25, 1.50, 2.0, 2.5 m/s)

### Repeatability

<b>8455 and 8465</b>	$\leq \pm 1.0\%$ of reading <sup>3</sup>
<b>8475</b>	N/A

### Response to Flow

<b>8455 and 8465</b>	0.2 sec. <sup>4</sup>
<b>8475</b>	5 sec. <sup>5</sup>

### Temperature Range

<b>Compensation</b>	32 to 140°F (0 to 60°C)
<b>Operating (electronics)</b>	32 to 200°F (0 to 93°C)
<b>Operating (sensor)</b>	32 to 200°F (0 to 93°C)
<b>Storage</b>	32 to 200°F (0 to 93°C)

### Resolution (minimum)

0.07% of selected full scale

### Input Power

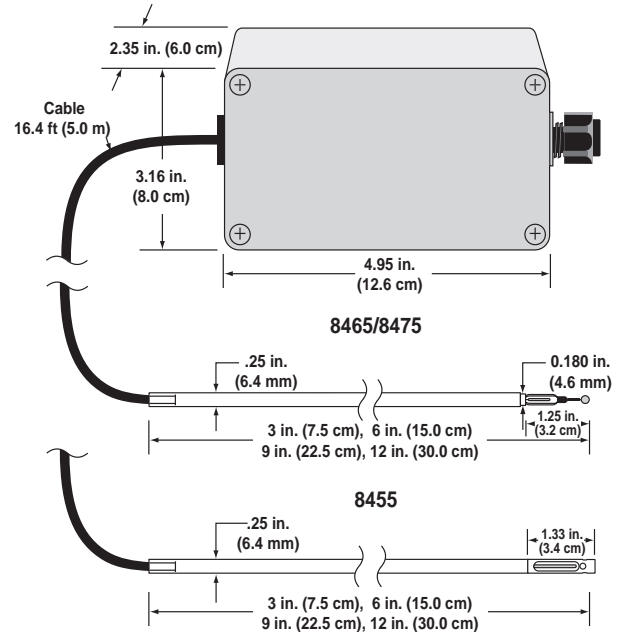
11 to 30 VDC or 18 to 38 VAC, 350 mA max<sup>6</sup>

### Output

<b>Impedance</b>	Voltage mode: less than 1 ohm, 20 mA max source current
<b>Resistance</b>	Current mode: 500 ohms maximum load
<b>Signal</b>	Field selectable 0 to 5V, 0 to 10V, 0 to 20, 2 to 10V, mA, 4 to 20 mA
<b>Time Constant</b>	Field selectable 0.05 to 10 seconds

### Probe length

3 in., 6 in., 9 in., 12 in. (7.5 cm, 15 cm, 22.5 cm, or 30 cm)



	8455/8465	8475
Range	25 to 10,000 fpm (0.127 to 50.8 m/s), selectable	10 to 500 fpm (0.05 to 2.54 m/s), selectable
Accuracy	$\pm(2\%$ of reading at 64.4 to 82.4°F (18-28°C) +0.5% of full scale of selected range)	$\pm(3\%$ of reading at 68.0-78.8°F (20 to 26°C) +1% of full scale of selected range)
Response time	0.2 seconds	5.0 seconds
Input power	11 to 30 VDC or 18 to 28 VAC, 350 mA maximum	

<sup>1</sup> From 64.4 to 82.4°F (18 to 28°C), outside this range and within temperature compensation range add 0.11% per °F (0.2% per °C).  
<sup>2</sup> From 68 to 78.8°F (20 to 26°C), outside this range and within temperature compensation range add 0.28% per °F (0.5% per °C). Directional sensitivity of the Model 8475 is +5%/-20% of reading +0/-10 ft/min (+0/-0.05 m/s) over 270° solid angle regardless of flow direction.  
<sup>3</sup> Standard deviation based on one minute average from 100 to 1,000 fpm (0.5 to 5.0 m/s).  
<sup>4</sup> For 63% of final value, tested at 1,500 fpm (7.5 m/s).  
<sup>5</sup> For 63% of final value, tested at 500 fpm (2.5 m/s).  
<sup>6</sup> Input voltage must be maintained within specifications at the transducer.

Specifications subject to change without notice.

**TSI Incorporated** - 500 Cardigan Road, Shoreview, MN 55126-3996 USA

<b>USA</b>	Tel: +1 800 874 2811	E-mail: info@tsi.com	Website: www.tsi.com
<b>UK</b>	Tel: +44 149 4 459200	E-mail: tsiuk@tsi.com	Website: www.tsiinc.co.uk
<b>France</b>	Tel: +33 491 11 87 64	E-mail: tsifrance@tsi.com	Website: www.tsiinc.fr
<b>Germany</b>	Tel: +49 241 523030	E-mail: tsigmbh@tsi.com	Website: www.tsiinc.de
<b>India</b>	Tel: +91 80 41132470	E-mail: tsi-india@tsi.com	
<b>China</b>	Tel: +86 10 8251 6588	E-mail: tsibeijing@tsi.com	
<b>Singapore</b>	Tel: +65 6595 6388	E-mail: tsi-singapore@tsi.com	



TRUST. SCIENCE. INNOVATION.

Contact your local TSI Distributor or visit our website [www.tsi.com](http://www.tsi.com) for more detailed specifications.